No. 8200006

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Northrup King Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COMMON WHEAT

'835'

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 11th *day of* March *in the year of our Lord one thousand nine hundred and* eighty-two.

Attest:

Kenneth R. Ev

Acting
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block

Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
75W 355	835	PV NUMBER 8200006
2. KIND NAME: Common Wheat	3. GENUS AND SPECIES NAME: Triticum aestivum Lin.	FILING DATE: 10/19/81 — TIME: 2:00 A.M. (P.M.)
4. FAMILY NAME (BOTANICAL): Gramineae	5. DATE OF DETERMINATION: August 1979 (12/4/81)	FEE RECEIVED: $ 500.00 / $ 250.00 — DATE: 10/19/81 / 1/11/82
6. NAME OF APPLICANT(S): Northrup King Co.	7. ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*): 1500 Jackson St. N.E. Minneapolis, MN 55413	8. TELEPHONE AREA CODE AND NUMBER: 612-781-5305

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (*Corporation, partnership, association, etc.*)	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation	Delaware	1896

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:
Robert W. Romig
Northrup King Co.
1500 Jackson St. N.E./Minneapolis, MN 55413

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [ ] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)* (12/4/81)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [X] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

OCTOBER 15, 1981
(DATE)

Robert W. Romig
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

EXHIBIT A
Origin and Breeding History of the Variety

Variety 835 is the result of hybridization, individual plant selection and head selection from the cross Lancer/Sturdy. Our pedigree for this variety is N7015-2K-OK.

We made the cross in the greenhouse at Eden Prairie, Minnesota, in 1971 and grew the F1 in southern California during 1971 by vernalizing the seed and transplanting F1 seedlings in the field. F2 seed was planted at Pratt, Kansas in the fall of 1972. Individual F2 plant selection was made in 1973. The F3 plant row was bulked at Pratt in 1974 and the F4 was tested in 1975 preliminary yield trials. The F5 seed from the preliminary trial was utilized to plant replicated trials in 1975-76. In 1976 twenty heads were selected from the replicated yield trial (F5) at Pratt, Kansas. The heads were threshed individually and F6 head-rows were grown at Yuma in 1976-77. Ten head-row lines were harvested at Yuma, Arizona. Seed from these individual head-row lines was then yield tested in replicated trials at Pratt, Kansas and York, Nebraska in 1977-78. An increase of each of the ten head-row lots was simultaneously grown at Yuma in 1977-78. Four of the head-row lines were tested again in 1978-79 and increased at Yuma as pure lines. In August, 1979, one head-row line, 79AWH 3003, was selected to represent the variety, based on yield and agronomic data. 835 is thus derived from a single F6 head-row selection. Breeder seed in 1980 was in the F9 generation of selfing.

The variety is uniform and stable. There are no unusual or characteristic variations.

Foundation seed produced in 1980 has been inspected and approved by the Texas Seed Certification Program.

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EXHIBIT B
Novelty Statement

Variety 835 is most similar to Scout 66 but differs in plant height. Variety 835 is a short stature wheat with a plant height averaging 81-91 cm depending upon environment. The height of Scout 66 ranges from 106-110 cm in the same environments. Variety 835 is thus from 19-25 cm shorter than Scout 66.

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)
Northrup King Co.,

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
1500 Jackson St. N.E.
Minneapolis MN 55413

FOR OFFICIAL USE ONLY
PVPO NUMBER 8200006
VARIETY NAME OR TEMPORARY DESIGNATION
835

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. KIND:
[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:
[2] 1 = SPRING 2 = WINTER 3 = OTHER *(Specify)* _____ [2] 1 = SOFT 2 = HARD 3 = OTHER *(Specify)* _____

[2] 1 = WHITE 2 = RED 3 = OTHER *(Specify)* _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:
[ ][ ][ ] FIRST FLOWERING [ ][ ][ ] LAST FLOWERING

4. MATURITY *(50% Flowering)*:
[0][1] NO. OF DAYS *EARLIER* THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS
[0][1] NO. OF DAYS *LATER* THAN ..... [8] 4 = LEMHI 5 = NUGAINES 6 = LEEDS
7=Centurk 8=Vona

5. PLANT HEIGHT *(From soil level to top of head)*:
[0][9][1] CM. HIGH

[0][0] CM. TALLER THAN ..... [8] 7=Centurk 8=Vona

[1][4] CM. SHORTER THAN ..... [7] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS
& 12/4/81

6. PLANT COLOR AT BOOTING *(See reverse)*:
[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:
[1] 1 = YELLOW 2 = PURPLE

8. STEM:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom: 1 = ABSENT 2 = PRESENT
[2] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT
[1] Internodes: 1 = HOLLOW 2 = SOLID
[0][3] NO. OF NODES *(Originating from node above ground)*
[2][0] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:
[1] Anthocyanin: 1 = ABSENT 2 = PRESENT
[2] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:
[1] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER *(Specify)*: _____
[2] Flag leaf: 1 = NOT TWISTED 2 = TWISTED
[ ] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT
[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT
[0][9] MM. LEAF WIDTH *(First leaf below flag leaf)*
[2][2] CM. LEAF LENGTH *(First leaf below flag leaf)*:

FORM LPGS-470-6 (3-79) (Formerly Form GR-470-6 (2-73), which may be used)

11. HEAD:

[1] Density: 1 = LAX 2 = DENSE

[1] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER *(Specify)* _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[1] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER *(Specify)*: _____

[0][7] CM. LENGTH

[0][7] MM. WIDTH

12. GLUMES AT MATURITY:

[2] Length: 1 = SHORT *(CA. 7 mm.)* 2 = MEDIUM *(CA. 8 mm.)* 3 = LONG *(CA. 9 mm.)*

[2] Width: 1 = NARROW *(CA. 3 mm.)* 2 = MEDIUM *(CA. 3.5 mm.)* 3 = WIDE *(CA. 4 mm.)*

[2] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[1] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[4] Phenol reaction *(See instructions)*: 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER *(Specify)* _____

[0][6] MM. LENGTH

[0][3] MM. WIDTH

[3][6] GM. PER 1000 SEEDS

17. SEED CREASE:

[1] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[1] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[1] STEM RUST *(Races)* 15B QSH seedling test

[2] LEAF RUST *(Races)* Unknown

[0] STRIPE RUST *(Races)* _____

[0] LOOSE SMUT

[0] POWDERY MILDEW

[0] BUNT

[1] OTHER *(Specify)* Soil-borne mosaic virus

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SAWFLY

[0] APHID *(Bydv.)*

[0] GREEN BUG

[0] CEREAL LEAF BEETLE

[ ] OTHER *(Specify)* _____

HESSIAN FLY RACES: [1] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Scout	Seed size	Scout
Leaf size	Centurk	Seed shape	Scout
Leaf color	Sturdy	Coleoptile elongation	Scout
Leaf carriage	Sturdy	Seedling pigmentation	Scout

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. *(See attachment.)*

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

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EXHIBIT D
Additional Description of the Variety

Variety 835 is a cultivar of Triticum aestivum L. with winter growth habit. The kernels are hard, red, and ovate to elliptical in shape. Cheeks are rounded normally. The brush is midsized and midlong. Spikes are awned, lax to middense, and fusiform to oblong. Glumes are white and glabrous. The beak is accuminate and short (1–4 mm long).

This variety is semidwarf with height similar to Vona. Date of heading for 835 averages one day earlier than Centurk and one day later than Vona. Relative maturity is medium. 835 has the adult plant resistance of Sturdy to leaf rust (Puccinia recondita) in the field. Adult plant resistance to some races of stem rust (P. graminis f. sp. tritici) has been observed in the field. However seedling tests to races 15B2 and 151QSH indicate susceptible reactions (rating of 3). 835 is moderately susceptible to the Great Plains Biotype of Hessian Fly (Mayetiola destructor (Say)).

Coleoptile color is white and seedling anthocyanin is absent. Plant color at booting is green. The stem is hollow and has no anthocyanin. Usually three nodes are formed above the ground.

Overall quality for bread has been comparable to check varieties. Stability and valorimeter scores have often been greater for 835 than for Centurk.

835 is adapted to the hard red winter wheat growing areas of Texas, Oklahoma, Kansas, Colorado, Nebraska, and New Mexico.

Table 1. Plant Height Comparisons of Variety 835 with Check Varieties in 1980 Nebraska Variety Tests

Location	Plant Height (cm)				
	835	Scout 66	Ctk 78	Bennett	Vona
Clay Co.	89	114	122	107	94
Kearney Co.	76	102	91	89	76
Lincoln Co.	84	102	99	91	86
Hayes Co.	89	117	112	104	94
Keith Co.	69	94	86	74	69
Average	81	106	102	93	84

Table 2. Plant Height Comparisons of Variety 835 with Check Varieties in the 1980 Texas Hard Red Winter Wheat Test

Location	Plant Height (cm)			
	835	Tam 101	Newton	Vona
Bushland Dry	51	61	58	56
Bushland Ir.	76	76	76	74
Chillicothe	58	56	61	58
Munday	41	41	38	41
Abiliene	43	48	48	46
Average 5 Loc.	54	56	56	55

Table 4. Agronomic Characteristics of 835 in Comparison to Checks Summarized from Northrup King Trials in 1978 and 1979

	835	Centurk	Vona	Scout 66
Height cm	91	105	91	110
Test Wt. kg/hl	74.5	74.0	71.7	74.1
Heading Date	144	146	143	145
Lodging (0-9) 1/	2	4	2	6
Winter Survival (0-9) 2/	8	8	5	8
Shattering (0-9) 1/	2	2	2	3
Leaf Rust (Field)	MR	S	MS	S
Stem Rust (Field)	R	R	R	R
Soil Borne Mosaic Virus	S	MS	S	S

1/ 0-9 scale where 0 is best and 9 is poorest

2/ 0-9 scale where 0 = no survival; 1 = 10-19% survival; 9 = 90-100% survival

Table 5. Quality Characteristics of Samples Grown at York, Nebraska, '78 and '79

Characteristics	1978		1979	
	835	Centurk	835	Centurk
Wheat Protein	16.05	14.0	13.80	13.75
Test Weight	52.6	58.1	63.2	62.7
Milling & Ext.	67.2 F	68.5 G-	71.2 G	69.0 G-
Farinograph				
Absorption	63.0	61.0	57.0	60.4
Peak	25.0	11.0	8.0	6.25
Stability	40.0	29.0	26.0	16.5
MTI	10	10	20	25
Valorimeter	100	83	73	65
Flour				
Ash	.441	.388	.406	.352
Protein	14.75	12.85	12.80	12.60
Bake				
Absorption	65.5 G+	64.0 G	59.5 F	63.0 F
Mix	7.25	8.25 F	5.75 G-	5.00 VG
Dough	5 G	5 G-	6 G	6 G
Loaf Vol. cc	1000 Ex-	995 G+	980 VG	1000 EX
Score	28 G-	29 G-	31 G-	35 VG-
Overall Score	57 G-	60 G-	60 G-	64 G

Table 6. Quality Characteristics of Samples Grown at Pratt Kansas in '78 and '79

Characteristics	1978		1979	
	835	Centurk	835	Centurk
Wheat Protein	12.60	13.21	12.00	12.60
Test Weight	63.2	58.9	63.5	59.9
Milling & Ext.	69.6 G-	65.7 F	72.9 G	67.5 F
Farinograph				
Absorption	57.0	60.5	57.7	59.0
Peak	15.0	6.50	8.00	8.00
Stability	34.00	18.90	23.50	45.00
MTI	10	24	30	20
Valorimeter	92	67	74	75
Flour				
Ash	.424	.416	.438	.379
Protein	11.45	11.71	11.00	11.35
Bake				
Absorption	59.5 F	63.4 G	61.0 G-	62.5 G-
Mix	5.25 G-	4.65 G+	5.00 VG	6.50 G-
Dough	5 G-	6 G	5 G-	5 G-
Loaf Vol. cc	900 G	885 G	880 G-	900 G
Score	28 G-	29 G	30 G-	28 G-
Overall Score	56 G-	56 G-	60 G-	55 G-